

What is claimed is:

1. A non-aqueous electrolyte secondary cell comprising:
  - a positive electrode for reversibly intercalating-deintercalating lithium ions;
  - 5 a negative electrode for reversibly intercalating-deintercalating lithium ions; and
  - a non-aqueous electrolyte having a non-aqueous solvent and an electrolyte salt, wherein,
  - the non-aqueous solvent includes a cycloalkylbenzene derivative and
  - 10 an alkylbenzene derivative having a quaternary carbon directly bonded to a benzene ring and not having a cycloalkyl group directly bonded to the benzene ring.
2. The non-aqueous electrolyte secondary cell according to claim 1, wherein the non-aqueous solvent further includes an unsaturated cyclic
- 15 carbonate derivative.
3. The non-aqueous electrolyte secondary cell according to claim 1, wherein:
  - the cycloalkylbenzene derivative is contained in the non-aqueous solvent at a ratio of 0.5 to 5 parts by mass per 100 parts by mass
  - 20 of the non-aqueous solvent; and
  - the alkylbenzene derivative having a quaternary carbon directly bonded to a benzene ring and not having a cycloalkyl group directly bonded to the benzene ring is contained in the

non-aqueous solvent at a ratio of 0.5 to 10 parts by mass per 100 parts by mass of the non-aqueous solvent.

4. The non-aqueous electrolyte secondary cell according to claim 2, wherein:

- 5       the cycloalkylbenzene derivative is contained in the non-aqueous solvent at a ratio of 0.5 to 5 parts by mass per 100 parts by mass of the non-aqueous solvent; and
- the alkylbenzene derivative having a quaternary carbon directly bonded to a benzene ring and not having a cycloalkyl group
- 10       directly bonded to the benzene ring is contained in the non-aqueous solvent at a ratio of 0.5 to 10 parts by mass per 100 parts by mass of the non-aqueous solvent.